

# **SOHO 17: 10 Years of SOHO and Beyond**

7-12 May 2006, Giardini Naxos, Sicily

**Sunday, 7 May 2006, AM**

**16:00-18:00 Early Bird Check-In at Naxos Beach Resort**

**19:00            Welcome Reception at Naxos Beach Resort**

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**Monday, 8 May 2006, AM**

Chairs: Thompson, Mike; Di Mauro, Maria Pia

08:00     Registration at Palanaxos

09:00     Welcome Address  
*Flamini, Fabrizio*  
Agenzia Spaziale Italiana

**Session 1: Solar Interior: From Exploration to Experimentation**

**Time: 09:05 - 12:30**

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09:05     Helioseismological Determination of the State of the Solar p.1  
Interior

*Gough, Douglas*  
University of Cambridge

09:35     Interpreting Solar Frequencies: Methods and Techniques p.2  
*Basu, Sarbani*  
Yale University

10:05     Recent Progresses on g-mode Search p.3  
*Appourchaux, Thierry et al.*  
Institut d'Astrophysique Spatiale

10:20     Looking for Asymptotic G Modes using GOLF Aboard SoHO p.4  
*Garcia, Rafael A. et al.*  
Service d'Astrophysique CEA/Saclay

*10:35 – 11:15 Coffee Break and Posters at the Palanaxos*

11:15     Helioseismic Determination of Subsurface Fluid Dynamics p.5  
*Corbard, Thierry*  
Observatoire de la Crte d'Azur, FRANCE

11:45     SOHO and Time-Distance Helioseismology p.6  
*Duvall, Thomas<sup>1</sup> et al.*  
NASA/Goddard Space Flight Center

12:00     Subsurface Flows and the Evolution of Solar Filaments p.7  
*Hindman, Bradley<sup>1</sup> et al.*  
University of Colorado

12:15     Resonant Oscillation Modes and Background in Realistic p.8  
Hydrodynamical Simulations of Solar Surface Convection  
*Straus, T.<sup>1</sup> et al.*  
INAF - Osservatorio Astronomico di Capodimonte

*12:30 – 14:30 Luncheon at the Naxos Beach Hotel*

## Monday, 8 May 2006, PM

Chairs: Vial, Jean-Claude; Gregory, Sara

**Session 2: Magnetic Variability: From the Tachocline to the Heliosphere**

**Time:** 14:30 - 17:30

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14:30	Probing Solar Activity and Convection with Local Helioseismology <i>Gizon, Laurent</i> Max-Planck-Institut fuer Sonnensystemforschung,	p.9
15:00	The Solar Dynamo: What we know, what we think we know and what progress can we make. <i>Steven, Tobias</i> University of Leeds	p.10
15:30	Does visibility effect fully explain a cycle variations of coronal bright points? <i>Sattarov, Isroil et al.</i> Tashkent State Pedagogical University	p.11
15:45	The Coronal Wave Damping Problem: Mechanisms for wave damping in the solar corona <i>Andries, Jesse<sup>1</sup> et al.</i> KULeuven	p.12

16:00 – 16:30 *Coffee Break and Posters at the Palanaxos*

16:30	MHD Modeling of the Solar Corona and Inner Heliosphere <i>Mikic, Zoran et al.</i> SAIC	p.13
17:00	Magnetic variability of the electron density in the solar corona <i>Lamy, Philippe et al.</i> Laboratoire d'Astrophysique de Marseille	p.14
17:15	Heliospheric constraints on the coronal magnetic field <i>Zurbuchen, Thomas H</i> University of Michigan	p.15

**Poster Session:** Dedicated Poster Session and Reception  
*See list of posters, beginning on page ix*  
**Time:** 17:30 - 19:30

# Tuesday, 9 May 2006, AM

Chairs: Walsh, Robert; Reale, Fabio

08:00 Registration at Palanaxos

**Session 3: Atmospheric Heating and Solar Wind Origin: MHD vs. Plasma Physics**

**Time: 09:00 - 14:30**

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|-------|---|------|
| 09:00 | Heating of the Magnetically Closed Corona<br><i>Klimchuk, James</i><br>Naval Research Lab   | p.16 |
| 09:30 | New models of the solar chromosphere and transition region determined from SUMER observations<br><i>Avrett, Eugene</i><br>Smithsonian Astrophysical Observatory | p.17 |
| 09:45 | Results of the Analysis of Solar Active Regions and their Loops at Montana State<br><i>Martens, Petrus et al.</i><br>Montana State University                   | p.18 |
| 10:00 | First VUV Sun-as-a-star spectrum compared to other cool stars<br><i>Peter, Hardi</i><br>Kiepenheuer-Institut  | p.19 |
| 10:15 | Damped coronal loop oscillations: time-dependent analysis<br><i>Terradas, Jaume et al.</i><br>Universitat de les Illes  | p.20 |

*10:30 – 11:15 Coffee Break and Posters at the Palanaxos*

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|-------|---|------|
| 11:15 | Heating of the Quiet Solar Corona<br><i>Brooks, David H. et al.</i><br>Naval Research Laboratory                                      | p.21 |
| 11:30 | Coronal heating and solar wind acceleration: SOHO observations and theoretical advances<br><i>Velli, M.</i><br>University of Florence | p.22 |
| 12:00 | Plasma diagnostics of the large-scale corona with SUMER<br><i>Landi, Enrico et al.</i><br>Artep Inc.                                  | p.23 |
| 12:15 | Solar coronal-hole plasma densities and temperatures<br><i>Wilhelm, Klaus</i><br>Max-Planck-Institut fuer Sonnensystemforschung       | p.24 |

*12:30 – 14:30 Luncheon at the Naxos Beach Hotel*

## Tuesday, 9 May 2006, PM (Session 3 cont')

Chairs: Marsch, Ekart; Auchere, Frederick

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|-------|---|------|
| 14:30 | Solar Wind Forecasting from the Chromosphere<br><i>Leamon, Robert et al.</i><br>L-3 Communications/ NASA GSFC                                   | p.25 |
| 14:45 | Diagnostics and Modelling of the Solar Wind Source Regions<br><i>Poletto, Giannina</i><br>INAF - Arcetri Astrophysical Observatory              | p.26 |
| 15:15 | Coronal Hole Properties During the First Decade of<br>UVCS/SOHO<br><i>Miralles, M. P. et al.</i><br>Harvard-Smithsonian Center for Astrophysics | p.27 |
| 15:30 | Properties of Polar Plumes'Plasma from Coronal Emission<br>Modelling<br><i>Raouafi, Nour-Eddine</i><br>National Solar Observatory               | p.28 |

*15:45 – 16:15 Coffee Break and Posters at the Palanaxos*

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|-------|--|------|
| 16:15 | Structure in the outflow of the solar wind<br><i>Gabriel, Alan et al.</i><br>Institut d'Astrophysique Spatiale | p.29 |
| 16:30 | Slow wind in the extended corona<br><i>Abbo, Lucia et al.</i><br>INAF- Istituto Nazionale di Astrofisica       | p.30 |
| 16:45 | Solar Wind Heavy Ion Speed and Density Comparisons<br><i>Ipavich, Fred et al.</i><br>University of Maryland    | p.31 |

**Poster Session:** **Dedicated Poster Session and Reception**  
*See list of posters, beginning on page ix*  
**Time:** **17:00 – 19:00**

# Wednesday, 10 May 2006, AM

Chairs: Strachan, Leonard; St. Cyr, Christ

08:00 Registration at Palanaxos

**Session 4: Solar Variability and its Effects on the Heliosphere and the Earth**

**Time: 09:00 - 12:30**

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|-------|---|------|
| 09:00 | Solar Luminosity Variation: Implications for Stellar and Climate Physics<br><i>Foukal, Peter</i><br>Heliophysics, Inc   | p.32 |
| 09:30 | Helioseismic responses induced by the proton-rich flare of October, 28, 2003<br><i>Zharkova, Valentina et al.</i><br>University of Bradford   | p.33 |
| 09:45 | Photospheric field evolution in the source regions of coronal mass ejections<br><i>Bothmer, Volker et al.</i><br>University of Goettingen   | p.34 |
| 10:00 | Using SOHO to Understand CME-Producing Quiet-Region Filament Eruptions<br><i>Sterling, Alphonse et al.</i><br>NASA/MSFC/NSSTC   | p.35 |
| 10:15 | Multiscale Optical Flow For Analysing The Dynamics In Solar EUV Images. Algorithm, Calibration And First Results<br><i>Hochedez, Jean-François E. et al.</i><br>Royal Observatory Belgium | p.36 |

*10:30 - 11:00 Coffee Break and Posters at Palanaxos*

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|-------|--|------|
| 11:00 | An Experiment in Forecasting the Eruption of Quiescent Prominences Using EIT 304A Images<br><i>Martin, Sara et al.</i><br>Helio Research | p.37 |
| 11:15 | 10 Years of CME Onset Studies with SOHO/CDS<br><i>Bewsher, Danielle et al.</i><br>CCLRC/RAL  | p.38 |
| 11:30 | SOHO Contributions to Understanding CMEs<br><i>Simnett, George</i><br>University of Birmingham   | p.39 |
| 12:00 | Paradigm Shifts Using LASCO Results<br><i>Howard, Russell</i><br>Naval Research Lab  | p.40 |
| 12:15 | Detections of Coronal Mass Ejection Shocks with Lasco<br><i>Vourlidas, Angelos</i><br>Naval Research Laboratory                          | p.41 |

*12:30 - 14:00 Luncheon at the Naxos Beach Hotel*

**Excursion: Excursion to Alcantara Gorges and Tour & Wine**

**Tasting at Castiglione di Sicilia**

**Time: 14:00 – 21:00 Approximately**

SOHO 17 Provisional Programme (*subject to change*)

# Thursday , 11 May 2006, AM

Chairs: Peter, Hardi; Antonucci, Ester

08:00 Registration at Palanaxos

**Session 4 Solar Variability and its Effects on the Heliosphere and the Earth (con't):**

**Time:** **09:00 - 11:30**

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| 09:00 | SOHO UVCS and Mauna Loa Mark IV observations of a slow p.42<br>CME below 2 solar radii<br><i>Bemporad, Alessandro et al.</i><br>University of Florence           |
| 09:15 | Studying Halo and partial Halo Coronal Mass Ejections p.43<br>through UV Spectra<br><i>Ciaravella, A et al.</i><br>INAF-Osservatorio Astronomico di Palermo      |
| 09:30 | Solar Energetic Particles: Progress of Our Understanding in p.44<br>the SOHO Era<br><i>Klecker, Berndt</i><br>Max-Planck-Institut für extraterrestrische Physik, |
| 10:00 | Progress Toward Measurements of Suprathermal Tails in p.45<br>Coronal Proton Velocity Distributions<br><i>Kohl, John et al.</i><br>Harvard Smithsonian CfA       |

*10:15- 11:00 Coffee Break and Posters at Palanaxos*

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|-------|---|
| 11:00 | Particle acceleration in turbulent coronal loops: the role of p.46<br>intermittency<br><i>Malara, Francesco et al.</i><br>Università della Calabria             |
| 11:15 | Energetic Particles Measured by Ephip Instrument during p.47<br>the Last Solar Magnetic Field Polarity Reversal<br><i>R.-Pacheco, Javier et al.</i><br>ASRG/UAH |

**Session 5: SOHO and the Solar System**

**Time:** **11:30 - 12:30**

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*Chair: Antonucci, Ester*

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|-------|---|
| 11:30 | 1000 and counting: The Remarkable SOHO Contributions p.48<br>to Cometary Science<br><i>Biesecker, Douglas</i><br>NOAA/SEC                                     |
| 12:00 | Helium/hydrogen fractionation in the solar wind – how p.49<br>much is due to inefficient Coulomb drag?<br><i>Bochsler, Peter et al.</i><br>University of Bern |
| 12:15 | SOHO/UVCS Observation of Sungrazing Comet C/2002 S2 p.50<br><i>Giordano, Silvio et al.</i><br>INAF - Osservatorio Astronomico di Torino                       |

*12:30 – 14:30 Luncheon at the Naxos Beach Hotel*

# Thursday , 11 May 2006, PM

Chairs: Fleck, Bernhard; Gurman, Joe

**Session 6: The SOHO Roller-Coaster: Mission History and Personal Memories**

**Time:** **14:30 - 18:00**

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14:30 *Bonnet, R.M.*

14:50 *Vandenbussche, F.*

15:10 SOHO, what happened after 1999? p.51  
*van Overbeek, Ton*  
 European Space Agency

15:25 SOHO- Cleanliness in retrospect p.52  
*THOMAS, Ronald*  
 Ex-ESA

15:40 *Felici, Fabrizio*

*16:00 – 16:45 Coffee Break at the Palanaxos*

16:45 SOHO - How it all began, almost 24 years ago. p.53  
*Schwenn, Rainer et al.*  
 Max-Planck-Institut für Sonnensystemforschung

16:50 "Can't go sailing -- I'm SOL!" Some reminiscences about p.54  
 life in the early EOF  
*DeForest, Craig*  
 Southwest Research Institute

16:55 How to see Northern Lights through the clouds in England p.55  
*Del Zanna, Giulio*  
 University College London

Other contributions: M. Huber, M. Arduini, C. Holmes, D. Machi, J.-P. Olive, A. Poland, V. Domingo, A. Gabriel, P. Scerrer, R. Harrison, G. Noci, P. Brekke

**Conference Dinner:** **Villa Diodoro, Taormina**

**Time:** **19:00 – 24:00 Approximately**

## Friday, 12 May 2006, AM

Chairs: Spadaro, Daniele

08:00 Registration at Palanaxos

**Session 5 (cont'): SOHO and the Solar System**

**Time:** **09:00 - 09:30**

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09:00	SOHO and the HELIOSPHERE <i>Lallement, Rosine</i> CNRS	p.56
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**Session 7: From SOHO to ILWS and Beyond: Visions for Solar Research from Space**

**Time:** **09:30 - 11:40**

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09:30	On the long-term future of solar and heliospheric physics <i>Schrijver, Carolus J.</i> Lockheed Martin Advanced Technology Center	p.57
09:50	SOHO: A look back from 2025 <i>Gurman, Joseph B.</i> NASA Goddard Space Flight Center	p.58
10:10	Prospects for coronal physics <i>Cargill, Peter</i> Imperial College	p.59

*10:35 – 11:05 Coffee Break and Posters at Palanaxos*

11:05	Solar Microscopy: Unveiling the Sun's basic physical processes at their intrinsic scales <i>Solanki, Sami K. et al.</i> Max Planck Institute for Solar System Research	p.60
11:15	Can we finally solve the problems of "Coronal Heating " and "Solar Wind Acceleration" in the Cosmic Vision era ? <i>Maksimovic, M. et al.</i> LESIA, Observatoire de Paris	p.61
11:25	A Very High Resolution Vision for Solar Physics <i>Dami, Luc</i> Service d'Aéronomie du CNRS	p.62
11:35	Imaging UV Spectroscopy of the Corona: from UVCS/SOHO to ILWS missions <i>Fineschi, Silvano et al.</i> INAF-Osservatorio Astronomico di Torino	p.63

**Closing Session:**

**Open Discussion**

**Time:** **11:45 - 13:00**

**Chair:** **K. Schrijver**

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# SOHO 17: List of Posters

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- P1 SEISMIC DETERMINATION OF SOLAR HEAVY ELEMENT ABUNDANCES**  
*Basu, Sarbani; Antia, H.M.*
- P2 EVOLUTION OF ZONALLY STRUCTURED NEAR-SURFACE FLOWS AND THEIR RELATION TO THE THERMAL STRUCTURE**  
*Bogart, Richard; Rabello-Soares, M. C.; Basu, S.*
- P3 CONSTRAINING THE FINE-STRUCTURE CONSTANT WITH HELIOSEISMOLOGY**  
*Bonanno, Alfio*
- P4 G-MODES AND THE SOLAR CYCLE**  
*Gabriel, Alan*
- P5 ON THE SEARCH FOR G-MODES**  
*Gavryuseva, Elena*
- P6 SOLAR ACOUSTIC MODES : FREQUENCY VARIATION RELATED TO THE MAGNETIC ACTIVITY ALONG THE SOLAR CYCLE, DEDUCED FROM THE GOLF DATA.**  
*Grec, Gerard; Lazrek, M; Fossat, E*
- P7 COMPUTATIONAL ACOUSTICS IN SPHERICAL GEOMETRY: STEPS TOWARDS VALIDATING HELIOSEISMOLOGY**  
*Hanasoge, Shravan; Duvall, T. L., Jr.*
- P8 SENSITIVITY OF SOLAR F-MODE TRAVEL TIMES TO INTERNAL FLOWS.**  
*Jackiewicz, Jason; Gizon, L; Birch, A*
- P9 GOLF: 10 YEARS OF OBSERVATION OF LOW DEGREE P-MODES**  
*Jiménez Reyes, Sebastián; García, R. A.; Turck-Chieze, S.<sup>1</sup>*
- P10 THE ROLE OF MULTI CELLULAR MERIDIONAL FLOWS IN SETTING THE CYCLE PERIOD AND FIELD PARITY IN SOLAR DYNAMO MODELS**  
*Jouve, Laurène; Brun, A.S.*
- P11 MDI AND GONG INFERENCES OF THE CHANGING SUN**  
*Komm, Rudolf; Burtseva, O.; Gonzalez Hernandez, I.; Hill, F.; Howe, R.; Jain, K.; Kholikov, S.; Leibacher, J.; Toner, C.; Tripathy, S.*
- P12 SUBSURFACE FLOWS ASSOCIATED WITH ACTIVE REGIONS DERIVED FROM GONG AND MDI DATA**  
*Komm, Rudolf; Howe, R.; Hill, F.*
- P13 HELIOSEISMIC MEASUREMENTS OF SOLAR RADIUS CHANGES FROM SOHO/MDI**  
*Lefebvre, S.; kosovichev, A. G.*
- P14 EXAMINING THE EFFECT OF THE NEW CHEMICAL COMPOSITION ON THE SOLAR STRUCTURE BY USING THE ADIABATIC GRADIENT**  
*Lin, Chia-Hsien; Antia, H; Basu, S*
- P15 MEAN FIELD EFFECTS IN FORCED SPHERICAL MHD MODELS**  
*Livermore, Phil; Tobias, S; Hughes, D*
- P16 HELIOSEISMIC TRAVEL TIMES FROM THE MDI STRUCTURE PROGRAMME**  
*Roth, Markus; Beck, J. G.; Gizon, L.*
- P17 NEW FULL-FARSIDE ANALYSIS WITH 10-YEARS OF MDI OBSERVATIONS**  
*Scherrer, Philip; Oslund, K.; Lindsey, C.; Braun, D.; Gonzalez-Hernandes, I.*
- P18 TEN YEARS OF MDI MEDIUM-L MODE FREQUENCIES**  
*Schou, Jesper*
- P19 DYNAMICS OF THE SOLAR RADIATIVE ZONE: PRESENT AND FUTURE**  
*TURCK-CHIEZE, Sylvaine*
- P20 RELATIONSHIP BETWEEN THE HORIZONTAL FLOW VELOCITY WITH CELL SIZE AND CELL LIFETIME**  
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- P21 THE INTERPLAY BETWEEN COMPLEX PATTERN FORMATION AND GLOBAL DYNAMICS OF THE PHOTOSPHERE**  
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*Vorontsov, Sergei*
- P23 THE SOLAR ABUNDANCE OF NEON AND THE STANDARD SOLAR MODEL**  
*Young, Peter*
- P24 ON THE CHOICE OF PHASE-SPEED FILTERS FOR HELIOSEISMIC TRAVEL-TIME MEASUREMENTS**  
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## Magnetic Variability: From the Tachocline to the Heliosphere

- P25 TEMPORAL VARIATION OF THE SOLAR ROTATION RATE DURING THE LAST DECADE**  
*Basu, Sarbani; Antia, H.M.*
- P26 ASPHERICITY AND TIME VARIATION OF THE STRUCTURE OF THE NEAR-SURFACE LAYERS OF THE SUN**  
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- P27 HIGH RESOLUTION OBSERVATIONS OF EMERGING ACTIVE REGIONS CARRIED OUT AT THE THEMIS TELESCOPE**  
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- P28 ON LINEAR AND NONLINEAR ANALYSIS OF JET AND CURRENT SHEET INTERACTIONS IN THE SOLAR SYSTEM: 2D HYBRID COMPACT SHOCK CAPTURING SIMULATIONS**  
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- P29 NUMERICAL SIMULATIONS OF SUNSPOTS**  
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- P30 ORIGIN AND DYNAMICS OF THE SOLAR INTERNAL MAGNETIC FIELD**  
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- P31 SOLAR PHOTOSPHERIC MAGNETIC ELEMENTS DIMENSION AND ASSOCIATED RADIANCE**  
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- P32 THE TRANSITION REGION ABOVE SUNSPOTS**  
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- P34 REVIEW OF THE LONG-TERM PERFORMANCE OF THE PM06 RADIOMETERS ON VIRGO/SOHO**  
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- P35 SEARCHING FOR COMMON MID-TERM VARIATIONS IN THE DIFFERENT ASPECTS OF SOLAR ACTIVITY**  
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- P37 SOLAR CYCLE VARIABILITY OF TOTAL SOLAR IRRADIANCE AND P-MODE FREQUENCIES**  
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- P38 LARGE SCALE TOPOLOGY AND DYNAMICS OF SOLAR MAGNETIC FIELD.**  
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- P39 RELATIONSHIPS BETWEEN THE PHOTOSPHERIC MAGNETIC FIELD, SOLAR WIND AND GEOMAGNETIC CHARACTERISTICS. HAS BEEN BEEN PERFORM TO STUDY THE RELATIONSHIPS BETWEEN THEM DURING 21, 22 AND 23 SOLAR ACTIVITY CYCLES AND TO MAKE A PREDICTION FOR SPACE WEAT**  
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- P40 ROTATION OF THE EXTENDED SOLAR CORONA FROM SOHO/UVCS OBSERVATIONS**  
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- P41 PROMINENCE PARAMETERS DERIVED FROM HYDROGEN LYMAN-A SPECTRAL PROFILES MEASURED BY SOHO/SUMER**  
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- P44 WHAT WE HAVE LEARNED ABOUT PROMINENCES AND FILAMENTS FROM SOHO/SUMER AND CDS SPECTRAL OBSERVATIONS**  
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- P45 DARKENING OF CORONAL LINES BY LIMB PROMINENCES OBSERVED BY SOHO/SUMER**  
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- P46 THE ORIGIN OF CURRENT HELICITY IN ACTIVE REGIONS**  
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- P49 ON THE ORIGIN OF "UNIPOLAR" MAGNETIC FLUX EMERGENCE: THE EMERGENCE YOU SEE IS NOT THE TRUE EMERGENCE**  
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- P54 MAGNETIC VARIABILITY OF THE STREAMER BELT**  
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- P55 IMPORTANCE OF ABSORPTION AND VOLUME BLOCKING FOR LINE INTENSITY DEPRESSION IN EUV FILAMENTS**  
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- P56 NUMERICAL SIMULATIONS OF SLOW STANDING WAVES IN A CURVED SOLAR CORONAL LOOP**  
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- P57 THE FOCAL PLANE PACKAGE OF THE SOLAR OPTICAL TELESCOPE ON SOLAR-B**  
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- P63 SUNSPOT AND PLAGE LATITUDINAL DISTRIBUTIONS AND THEIR CORRELATION WITH PERIODICITY OF THE GLOBAL MAGNETIC FIELD IN THE CYCLE 23**  
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